

Applicant thanks the Examiner for a telephone interview on January 30, 2003. Applicant discussed the claimed invention and pointed out the various limitations in the claims. Applicant and Examiner agreed on a common dictionary definition of 'sash' that included the framework in which a pane of glass is set in a window or door. In the claims, the sash is referred to as a moving sash which relates to the moving portion of the window that pivots from the fixed frame position.

Further, Applicant discussed the term 'casing' as described in the Emmons and Roman references. A common definition of 'casing' is the trim that is placed around a window and may be located around the interior or exterior perimeters of the window. A contractor typically applies the casing after the window has been installed in place within the window rough opening frame of a building and covers the gap between the window frame and surrounding wall surfaces.

In brief, the present claimed invention comprises a fixed frame, a moving sash, and a screen attached to the fixed frame by hook and loop fastener between the fixed frame and the closed movable sash. The movable sash is operable to swing about an axis to open and close while the screen is in place and provides screening for the fixed frame. Such a window may be a conventional casement window or other swinging window styles.

Claims 11-13, 15-18, 20-23, 25-26, and 30 were rejected under 35 USC 103(a) as being unpatentable over Emmons (4044813) in view of Morgan et al (6079475) and Roman et al (4867222). The Examiner contends that it would have been obvious to one skilled in the art at the time of Applicant's invention to modify the teachings of Emmons with the teachings of Morgan and Roman to attach a removable screen between a fixed frame and a rotatable sash using a hook and loop fastener system.

Emmons

Emmons teaches a screen system comprising "a light metal frame and conventional window glass or screen" (column 1, lines 35-36) wherein the window screen frame (26) is fastened to the window casing (12) with a male snap portion (22) mounted to the window casing (12) and a female snap portion (18) mounted on the window screen frame (26). Emmons has a "window screen frame (26) having a screen

(28)” (column 2, lines 35-36) and repeatedly refers to the screen frame throughout the Summary of The Invention. Specifically see column 1, lines 40-49.

In all cases, Emmons teaches that the screen (28) is attached to and supported by the window screen frame (26) that is attached to the male snap portion (22). In no case is the screen (28) itself in contact with any portion of the fastening system.

Emmons shows a double hung window system in Figures 1 and 2 and not a pivoting window system. The screen of Emmons is located on the interior casing of the double hung window. A double hung window system has at least one sliding sash that is operable to slide vertically to open or close. There is no “moving sash connected to the fixed frame and operable to substantially swing about an axis with respect to the fixed frame from an open position to a closed position” as set forth in claim 11 and the other independent claims.

Roman

Roman discloses “a window cover 10 that is readily attachable to and removable from a window frame 12 with window sashes 14 and 16” (Column 2, lines 6-9). From the Figures, and specifically Figure 3, the screen panel 22 is mounted to the interior of the window system and specifically not between the window frame 12 and the sashes 14 and 16. Roman mounts the screen to the casing of the window, which is the same placement for the screen as Emmons.

One problem in the art was that the screen of Roman prohibited operation of the window sashes. Roman recognized this problem in Column 2, lines 32-37:

When the screen panel 22 is in a fold up position, as shown in phantom in FIG. 5, the bent over loop fabric fastener strip 34 will interlock with the hook fabric fastener tabs 30 when pressure is applied thereto allowing a person (not shown) to obtain access to the window sashes 14 and 16.

Roman solves the problem of access to the movable sashes by folding the screen out of the way. This constitutes a teaching away from the Applicant’s claimed invention which is specifically designed to allow the screen to stay in place during operation of the window.

Further, Roman shows a double hung window system in Figure 3. A double hung window system has at least one sliding sash that is operable to slide vertically to open or close. There is no “moving sash connected to the fixed frame and operable to substantially swing about an axis with respect to the fixed frame from an open position to a closed position” as set forth in claim 11 and the other independent claims.

Morgan

Morgan fails to make up for the deficiencies of Roman. Morgan teaches the use of a security screen “including a subframe 12 (which may be attached to a structure 14) and a main frame 16 attached to the subframe 12 by hinges 18. A screen cloth 20, which is substantially planar, is attached to main frame 16.” The main frame (16) of Morgan constitutes a rigid framework in which the screen is mounted. The screen system of Morgan is directed at high strength security screens that are resistant to vandalism.

Morgan has a pivotally mounted sash in which a screen is secured. The screen is mounted in the moving sash and not between the fixed frame and the moving sash. Morgan shows a moving sash, but does not teach mounting the screen so that the window opening is screened when the sash is in the open position, as the present invention. In the claimed invention, the removable screen is “removably connected to the fixed frame with hook and loop fasteners” and “the removable screen mounted between the fixed frame and the moving sash such that the removable screen covers a window opening defined by the fixed frame when the moving sash is in the open position.”

Combination of References

Neither Emmons, Roman, or Morgan taken individually or in combination show a screen that is “mounted between the fixed frame and the moving sash,” as set forth in claim 11. Emmons and Roman place the screen on the interior casing away from the moving sashes. Morgan places the screen in a swinging sash.

Emmons and Roman teach the use of operable windows that are double hung windows that do not have “a moving sash connected to the fixed frame and operable to substantially swing about an axis with respect to the fixed frame from an open position to a closed position,” as set forth in claim 11 and the other independent claims. Such sliding

windows are non-analogous art, since the principles of operation of the sliding double hung windows, and the considerations for screening such windows, are different.

Further, Emmons, Roman, or Morgan do not disclose or teach “a removable screen mounted between the fixed frame and the moving sash so that said screen covers a window opening defined by the fixed frame when the moving sash is in the open position.” As the specification of the Applicant’s invention discloses, this may be accomplished with an inwardly swinging window and with a crank operated outward swinging window, among other configurations. Roman explicitly, and Emmons implicitly, teach that the screen would need to be removed for operating the moving sash. Morgan does not provide any screen that is in place when the sash is moved.

There is no suggestion or motivation to combine the references because the mounting methods of Emmons, Roman and Morgan are different and not combinable: one skilled in the art would either mount the screen directly to the fixed frame as Roman, or in a window screen frame with fasteners as Emmons, or a window screen frame with hinges as Morgan.

In the rejection, the Examiner asserts that the item 26, shown in Figure 4 of Emmons and described as a window screen frame in the text is equivalent to the moving sash as claimed. Even, assuming *arguendo*, that the window screen frame (26) could be considered a sash in which the screen (28) is mounted, under such a strained interpretation, such a sash would not correspond to the sash as recited in the Applicant’s claims. The Applicant’s claimed sash is “a moving sash connected to the fixed frame and operable to substantially swing about an axis with respect to the fixed frame from an open position to a closed position” as set forth in claim 11. The window screen frame (26) of Emmons is a sash that is required to hold the screen (28). The window screen frame of Emmons is not equivalent to the sash of the presently claimed invention because the screen is not removed from the window screen frame (26). In that regard, Claims 11 and 31 recite “a removable screen removably connected to said fixed frame with hook and loop fasteners.” This is not shown or even suggested in Emmons.

The Examiner further asserts that Emmons teaches “the screen being connected to the frame with a fastener.” The fasteners of Emmons are attached to the window casing (12) and the window screen frame (26), rather than the screen. Emmons does not teach

attaching the screen directly with a fastener. To fasten the screen directly to the fixed frame would change the principle of operation of Emmons, as the sealing properties of the screen would be lost by mounting the screen with discrete fasteners. The window screen frame (26) is required by Emmons to hold the screen (28) in place.

Filed herewith is a 37 CFR 1.132 Declaration of Calvin E. Hogan, an expert in the field of window systems and window screens. The facts set forth in Mr. Hogan's declaration establish the following:

1. The combination of references proposed in the Office action, taken individually or in combination, do not show a "removable screen mounted between a fixed frame and a moving sash" as claimed.
2. The double hung window systems of Emmons and Roman are non-analogous art to the rotating window system of the claimed invention.
3. That no combination of the references proposed in the Office action yields a benefit of the claimed invention: that the moving sash may be operated while the screen is fully engaged to the fixed frame.
4. That the mounting methods of Emmons, Roman, and Morgan are all different and there is no teaching, suggestion, or motivation to modify any combination of the methods.

In summary, Applicant traverses Examiner's rejection on several grounds.

First, the combination of the references do not show all of the limitations of the claimed invention. Neither Emmons, Roman, or Morgan taken individually or in combination show a screen that is "mounted between the fixed frame and the moving sash" as set forth in claims 11 and 31. Similar language is present in the other independent claims.

Second, two of the references are non-analogous art. Both Emmons and Roman are directed towards double hung window systems wherein at least one sash slides, rather than "a moving sash connected to the fixed frame and operable to substantially swing about an axis with respect to the fixed frame from an open position to a closed position" as set forth in claim 11.

Third, the principles of operation of the cited references are different from the claimed invention. Emmons requires a window screen frame in order to secure the screen and does not use fasteners to directly connect the screen to the fixed frame. Roman makes specific provisions for the screen to be folded and held out of the way so that the sashes of the window may be operated. The present claimed invention allows for the full operability of the windows while the screen is secured in place.

Fourth, there is no suggestion or motivation to combine the references because the mounting methods of Emmons, Roman and Morgan are different and there is no suggestion or teaching of using one in place of the other.

Neither the patents cited in the outstanding Office action, nor any other evidence of record, establish a *prima facie* case of obviousness.

Applicant thanks the Examiner for citing the best references at his command per 37 CFR 1.104 (c)(2). Applicant assumes that no new art will be cited by the Examiner in light of this section.

For at least these reasons, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Dated this 19th day of February 2003.

Respectfully submitted,

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